

AMENDMENTS TO THE CLAIMS

Please amend claims 1, 7, 9 and 19 as follows and cancel claims 5-6, 8, 10 and 20 as follows:

1. (currently amended) A method of forming a gate in a semiconductor device, comprising:

forming a gate pattern on ~~which~~ a gate oxide film disposed on a semiconductor substrate, the gate pattern including a polysilicon film, an anti-diffusion film stacked on the polysilicon film and a metal film stacked on the anti-diffusion film and a conductive layer are ~~the gate pattern being stacked on a given at a give region of the on a~~ semiconductor substrate, wherein a cleaning process using a HF solution is performed on the polysilicon film before the anti-diffusion film is stacked thereon to remove a native oxide from the polysilicon film,

forming a hard mask on top of the gate pattern; and

performing oxygen plasma treatment to a form oxide film on sides of the conductive layer and not on the hard mask.

2. (original) The method as claimed in claim 1, wherein the gate oxide film is formed using a silicon oxide film or a high-dielectric metal oxide film.

3. (previously presented) The method as claimed in claim 2, wherein the silicon oxide film include SiO_2 and SiO_xN_y .

4. (original) The method as claimed in claim 2, wherein the high-dielectric metal oxide film includes HfO_2 , ZrO_2 , Hf-Al-O, Zr-Al-O, Hf-silicate and Zr-silicate.

5-6 (canceled)

7. (currently amended) The method as claimed in claim 5-1, wherein the anti-diffusion film is formed using any one of WN_x , a stack film of W and WN_x , a stack film of WSi_x and WN_x , TaSi_xN_y and TiAl_xN_y .

8. (canceled)

9. (currently amended) The method as claimed in claim 5 1, wherein the metal film is formed using any one of W, Ta, TaN, Ti and TiN.

10. (canceled)

11. (original) The method as claimed in claim 1, wherein the oxygen plasma treatment is implemented by applying the RF source power of 100 ~ 3000W and the RF bias power of 0 ~ 100W.

12. (original) The method as claimed in claim 1, wherein the oxygen plasma treatment is performed using a gas containing oxygen such as O₂, O₃, N₂O, NO or H₂O, or a mixture of them.

13. (original) The method as claimed in claim 1, wherein the oxygen plasma treatment is performed using oxygen and hydrogen together.

14. (original) The method as claimed in claim 11, wherein the flow ratio of oxygen/hydrogen is 0.01 ~ 0.2.

15. (original) The method as claimed in claim 1, wherein the oxygen plasma treatment is implemented in a state where the substrate temperature is 0 ~ 450°C.

16. (original) The method as claimed in claim 1, further comprising the step of implementing the oxygen plasma treatment by illuminating ultraviolet rays on the top of the substrate.

17. (original) The method as claimed in claim 1, further comprising the step of performing an annealing process after the oxygen plasma treatment is performed.

18. (previously presented) The method as claimed in claim 17, wherein the annealing process is performed at a temperature of 600 ~ 1000°C for 10 seconds ~ 60 minutes in a nitrogen, hydrogen, argon or vacuum atmosphere.

19. (currently amended) A method of forming a gate in a semiconductor device, comprising the steps of:

forming a gate pattern on ~~which~~ a gate oxide film that is disposed on a semiconductor substrate, the gate pattern including a polysilicon film stacked on the gate oxide film, an anti-diffusion film stacked on the anti-diffusion film, and a metal film ~~are~~ stacked on the anti-diffusion film, the gate pattern disposed at a given region ~~on-a~~ of the semiconductor substrate, wherein a cleaning process using a HF solution is performed on the polysilicon film before the anti-diffusion film is stacked thereon to remove a native oxide from the polysilicon film;

forming a hard mask on top of the gate pattern;

performing oxygen plasma treatment to form oxide films only on sides of the gate pattern and not on the hard mask; and

performing an annealing process for improving the film quality of the oxide film.

20. (canceled)